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said blade row includes only twenty or only eighteen fan blades, and said chord to diameter ratio at said tips is the same in both species.

18. A fan according to claim **14** wherein said blade row includes twenty or eighteen blades, and said solidity at said tips thereof is greater than about 1.0 and no greater than about 1.2.

19. A fan according to claim **14** wherein said blades are sized and configured for pressurizing said air under an aerodynamic loading having a value of at least about 0.29 and defined by the ratio of the specific enthalpy rise across said airfoils over the square of velocity of said tips.

20. A fan according to claim **14** wherein said diverging flow passages at said airfoil tips are sized and configured for receiving supersonic flow of said air at said leading edges, followed by shock therein, and with subsonic diffusion aft of said throat.

21. A fan according to claim **14** wherein:
said blade row includes only twenty fan blades; and
adjacent airfoils have said circumferential gap near said tips, followed radially inwardly by circumferential overlap therebetween, and further followed radially inwardly by a circumferential gap near said roots.

22. A fan according to claim **21** wherein said solidity at said tips is about 1.17.

23. A fan according to claim **14** wherein:
said blade row includes only eighteen fan blades; and
said circumferential gap between adjacent airfoils extends from root to tip thereof.

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24. A fan according to claim **23** wherein said solidity at said tips is about 1.05.

25. A fan according to claim **14** wherein said airfoil tips vary in width between said leading and trailing edges to converge said flow passage from said mouth to said throat and diverge said flow passage from said throat to said outlet.

26. A method of using said fan according to claim **14** comprising:

powering said fan in a turbofan engine for propelling an aircraft in flight;

rotating said airfoil tips for achieving supersonic flow of said air at said leading edges thereof; and

aerodynamically loading said airfoils to propel said aircraft at cruise with increased efficiency due to low solidity while maintaining stability and stall margin of said fan.

27. A method of improving aerodynamic efficiency in said engine according to claim **11** comprising:

deriving said fan from a pre-existing fan design by
reducing said solidity at said airfoil tips while maintaining substantially equal the ratio of tip chord over tip diameter of said derived fan and said pre-existing fan; and

increasing area of said flow passages at said throats thereof.

28. A method according to claim **27** further comprising increasing camber of said airfoils at said tips thereof.

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